

Monographs on Biochemistry

Royal 8vo

Edited by

R. H. A. PLIMMER, D.Sc., and SIR F. G. HOPKINS, M.A., M.B., D.Sc., P.R.S.

TWO NEW VOLUMES

ALCOHOLIC FERMENTATION

By ARTHUR HARDEN, Ph.D., D.Sc., F.R.S.

Fourth Edition, Revised. With Illustrations. 15s. net

THE GLYCOSIDES

By E. F. ARMSTRONG, D.Sc., Ph.D., LL.D., F.R.S.

and K. F. ARMSTRONG, B.A., B.Sc.

12s. 6d. net

TWO RECENT VOLUMES

ENZYMES

By J. B. S. HALDANE, M.A.

With 35 Diagrams. 14s. net

BACTERIAL METABOLISM

By MARJORY STEPHENSON, M.A.

With Diagrams. 18s. net

LONGMANS, GREEN & CO., LTD.

39 PATERNOSTER ROW, LONDON, E.C. 4

Chemical Embryology

By JOSEPH NEEDHAM

*In three volumes
Demy 8vo*

*With 15 plates
(frontispiece in photo-
gravure) and 9 tables*

105s. net

This book is designed to fill a remarkable gap in the list of biological monographs. Embryology has hitherto been considered as a branch of morphology or anatomy; its functional and chemical aspects have been neglected. But the importance of an accurate knowledge of the physico-chemical events at all the stages of embryonic life is very considerable.

Dr Needham, who is University Demonstrator in Biochemistry, has collated the results of all previous work on the subject.

CAMBRIDGE UNIVERSITY PRESS FETTER LANE, LONDON, E.C.4

DIAGNOSTICA E TECNICA di LABORATORIO

*Rivista mensile
Di circa 100 pagine riccamente illustrate*

**Primo periodico del genere in
Europa**

**EGUALMENTE PREZIOSO
PER IL CLINICO PRATICO
E PER LO STUDIOSO SPECIALIZZATO
NUMERI DI SAGGIO GRATIS A RICHIESTA**

**NAPOLI 170, ITALY
Piazza San Domenico Maggiore, 9**

A BOOK SERVICE

We are prepared to purchase good Second-hand Books in large or small quantities, to pay cash and clear at our expense. ¶ We specialize in finding the unusual, the difficult and the out-of-print book and we offer the service of a special department to our customers. ¶ Subscriptions arranged for Periodicals and Transactions of Learned Societies, English and Foreign. Enquires invited.

WE WILL BUY THE FOLLOWING

American Journal of Physiology—Annales de l'Institut Pasteur—Bulletin de l'Institut Pasteur—Année Biologique—Archiv für Anatomie und Physiologie—Archiv für Entwicklungsmechanik—Archiv für experimentelle Pathologie—Archiv für mikroskopische Anatomie—Archiv für Physiologie (Pflüger)—Archives d'Anatomie microscopique—BIOCHEMICAL JOURNAL

—Archives internationales de Physiologie—Journal of Anatomy and Physiology—Journal of Biological Chemistry—Journal of Pathology and Bacteriology—Journal of Physiology—Physiological Reviews—Physiological Abstracts—Quarterly Journal of Microscopical Science—Skandinavisches Archiv für Physiologie—Zeitschrift für Biologie, and many others.

CATALOGUE 386—Scientific Books; mainly Mathematics, Physics, Chemistry and Journals. Free on request.

WE ALSO PUBLISH THE FOLLOWING

The ANALYST. The Journal of the Society of Public Analysts and other Analytical Chemists Monthly 3/- (Postage 3d.). Subscription 30/- per annum. I.R.I. TRANSACTIONS. The official journal of the Institution of the Rubber Industry. Every other month, 4/6 (Postage 3d.). Subscription 27/- per annum. JOURNAL OF THE NATIONAL INSTITUTE OF AGRICULTURAL BOTANY (The). Irregularly issued, 2/6 per part (Postage 3d.). TRANSACTIONS OF THE MEDICO-LEGAL SOCIETY. Annually, 12/6 net (Postage 9d.). Etc.

W. HEFFER & SONS, Ltd., CAMBRIDGE, England

Booksellers, Publishers, Printers and Stationers

Telephone 862

Telegrams and Cables: Heffer, Cambridge

BELL

a new science book



THE DONNAN EQUILIBRIA

T. R. BOLAM, D.Sc., M.Sc.

9s. net

The first detailed survey, with references to every development of importance, of the whole subject of the "Donnan Equilibria," the significance of which in modern physiological and chemical problems is now widely recognized.

"Allow me to congratulate you very heartily," writes Prof. Donnan, in a letter to the Author, "on the splendid way in which you have written the Monograph. I do not think anybody could have done it better."

G. BELL & SONS LTD., YORK HOUSE, PORTUGAL ST., W.C. 2

PHYSIOLOGICAL REVIEWS

PUBLISHED BY THE
AMERICAN PHYSIOLOGICAL SOCIETY

UNDER THE EDITORIAL DIRECTION OF

W. H. HOWELL, BALTIMORE

A. J. CARLSON, CHICAGO

LEO LOEB, ST LOUIS

N. R. BLOOR, ROCHESTER

J. J. R. MACLEOD, ABERDEEN, SCOTLAND

TORALD SOLLMANN, CLEVELAND

D. R. HOOKER, *Managing Editor*, BALTIMORE

Containing short but comprehensive articles dealing with the recent literature in Physiology, using this term in a broad sense to include Bio-Chemistry, Bio-Physics, Experimental Pharmacology and Experimental Pathology.

TENTATIVE CONTENTS OF VOLUME XII, 1932

F. C. KOCH: The Male Sex Hormone
A. D. HIRSCHFELDER and R. N. BIETER: Local Anesthetics: Relation of Constitution to Action
H. E. ROAF: Color Vision and Its Defects
D. P. BARR: Pathological Calcification
A. H. BAETJER: Effect of Muscular Fatigue upon Resistance
R. J. ANDERSON: Chemistry of Bacteria, Particularly the Fatty Acids of the Tubercle Bacillus
W. O. FENN: The Physical Chemistry of Muscles
T. M. RIVERS: The Constitution of Filterable Viruses
H. F. BLUM: Photodynamic Action
H. M. EVANS: Sex and Growth Hormones
J. B. COLLIP: The Functions of the Parathyroid Gland
K. S. LASHLEY: On Cerebrum Localization
CRAMER: Misapplication of Chemical Conceptions to Biological Problems

C. M. GRUBER: Autonomic Control of Genito-Urinary Organs
A. H. STEINHAUS: The Physiological Effects of Exercise
H. D. KAY: Phosphatase in Diseases and Growth of Bone
L. W. WEED: Postural Readjustment of the Pressure of Cerebro-Spinal Fluid
C. P. RICHTER: The Psycho-Galvanic Reflex
I. DE B. DALY: The Vascular System of the Lungs
D. ANDERSEN: The Relationship between the Thymus and Reproduction
A. V. HILL: The Revolution in Muscle Physiology
B. LUCKÉ and M. MCCUTCHEON: The Living Cell as an Osmotic System and its Permeability to Water
F. R. SABIN: Cellular Reactions to Fractions Isolated from Tubercle Bacilli

PUBLISHED
QUARTERLY

SUBSCRIPTION \$6.00 DOMESTIC
IN ADVANCE ONLY \$6.50 FOREIGN

Subscriptions should be sent to

DR D. R. HOOKER,
19 W. CHASE STREET,
BALTIMORE, MD., U.S.A.



CRYSTALLINE VITAMIN D

(CALCIFEROL)

FOLLOWING the publication of the methods which have led to isolation by British Scientists of pure vitamin D in a crystalline form, The British Drug Houses have undertaken the manufacture of this pure substance (named Calciferol), and offer it for the use of research workers.

Calciferol is of definite crystalline structure and possesses an unvarying vitamin D activity of 40,000 International Antirachitic Units per milligram.

PRICE

0.1 gram tubes 12s. 0d. each

Please specify "B.D.H." on your order

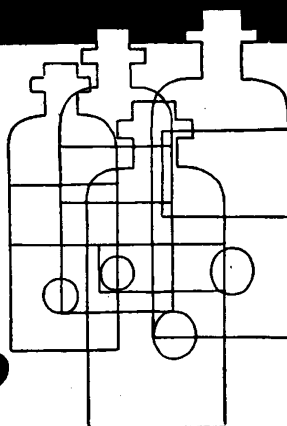
THE BRITISH DRUG HOUSES, LTD.

Makers of Fine Chemicals

GRAHAM STREET

LONDON, N.1

**A NEW
AND VERY
USEFUL
REAGENT!
(MAGNESON)**

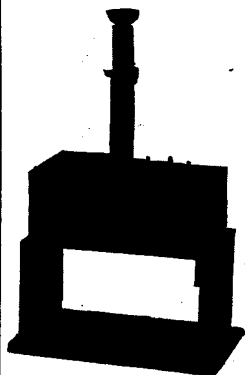


*Judex Analytical Reagents
guaranteed to conform to all
recognised British A.R.
standards.*

This new Judex reagent is for the detection of magnesium in small quantities. The sensitivity of the test is of the order of 0.002 mg. Magnesium. Magneson saves you long and tedious operations. It affords a ready means of detecting small quantities of magnesium in the presence of relatively large amounts of the alkaline earth metals.

**WORK WITH
JUDEX
CHEMICALS AND REAGENTS**

THE GENERAL CHEMICAL AND PHARMACEUTICAL CO., LTD., JUDEX
WORKS, SUDBURY, MIDDLESEX



THE LOVIBOND TINTOMETER

THE BRITISH DRUG HOUSES PATTERN

Patent No. 299,194 Reg. No. 756,317

Specially suitable for Colorimetric determinations of
VITAMIN A

Complete with 60 Red, Yellow and Blue Tintometer slides, twelve
Neutral Tint Slides and 1 cm. Acid Resisting Cell: £15:15:0

THE TINTOMETER LTD.
1 THE FRIARY

THE COLOUR LABORATORY
SALISBURY, WILTS.

JOURNAL DE CHIMIE-PHYSIQUE

Fondé en 1903 par PHILIPPE A. GUYE

et

REVUE GÉNÉRALE DES COLLOÏDES

publiés avec le concours de la SOCIÉTÉ DE CHIMIE-PHYSIQUE

Directeur Scientifique: M. Jean Perrin

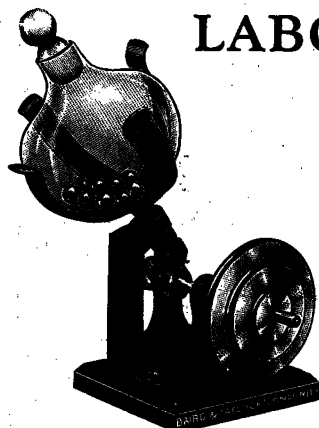
A bonnements annuels: 125fs.

LES PRESSES UNIVERSITAIRES DE FRANCE

49 BOULEVARD SAINT-MICHEL (PLACE DE LA SORBONNE), PARIS, 5



BAIRD & TATLOCK (LONDON) LTD.



LABORATORY BALL MILL

consisting of a thick walled, hard glass flask, fitted with stopper and containing a number of polished agate balls. The flask is slowly rotated on the end of a shaft inclined at 45° and driven by a worm reduction gear from a slow running motor.

The mill is specially suitable for grinding dried bacteria cultures, etc., as the flask and balls can be easily cleaned and sterilised. Furthermore the contents are free from risk of contamination from material removed from the flask or ball, a common cause of trouble with porcelain and metal types of mill. The inner surface being smooth and round there are no corners into which unground material can accumulate; after ten hours running the whole of the content of the flask is reduced to a state of fine powder.

- B2976.** BALL MILL complete with flask and 18 Agate Balls, mounted on iron frame, fitted with skew gear and pulley **£8. 17s. 6d.**
- B2976a.** MOTOR with reducing gear, to drive mill at 30 r.p.m., mounted on wooden base (or if preferred mounted on base with mill) **£12. 10s. 0d.**
- B2976b.** SPARE FLASKS **each 15s. 0d.**
- B2976c.** SPARE AGATE BALLS, 1.5 cm. diameter **per dozen £1. 4s. 0d.**

14-15 CROSS STREET HATTON GARDEN LONDON E.C.1

THE UNIVERSITY OF CHICAGO PRESS

Ultraviolet Light and Vitamin D in Nutrition. By KATHARINE BLUNT and RUTH COWAN. 14s. net.

A survey of all vitamin D discoveries, including creation of its effects by ultraviolet light.

Diet and Efficiency. A Five-Year Controlled Experiment on Man. By HARALD G. O. HOLCK. 5s. 6d. net.

Objective evidence of the effects of certain eating habits.

The Epidemiology and Control of Malaria in Palestine. By I. J. KLIGLER. 27s. 6d. net.

A complete account of successful control measures.

The Newer Knowledge of Bacteriology and Immunology. Edited by E. O. JORDAN and I. S. FALK. 55s. net.

Eighty leading men of science have collaborated in the preparation of this summarization of the present status of knowledge and methods in bacteriology and immunology.

Laboratory Outlines in Bacteriology and Immunology. By JOHN F. NORTON and I. S. FALK. 9s. 6d. net.

Nutrition Work with Children. By LYDIA J. ROBERTS. 20s. net.

Dealing with the causes, effects, prevention, and treatment of malnutrition.

The Control of Hunger in Health and Disease. By A. J. CARLSON. 14s. net.

Rhus Dermatitis: Its Pathology and Chemotherapy. By JAMES B. MCNAIR. 22s. net.

General Cytology. A Textbook of Cellular Structure and Function for Students of Biology and Medicine. Edited by E. V. COWDRY. 41s. 6d. net.

AGENTS IN GREAT BRITAIN AND THE BRITISH EMPIRE (EXCEPT CANADA)
Cambridge University Press, Fetter Lane, London, E.C. 4

PHYSIOLOGICAL A B S T R A C T S

Monthly, price 5s. net.

Annual Subscription, post free, 42s.

This Journal is issued by the PHYSIOLOGICAL SOCIETY, acting in co-operation with numerous physiological organisations in Great Britain, America, and other countries. The Editor, Prof. J. MELLANBY, is assisted by a staff of competent abstractors both at home and abroad.

The Journal aims at issuing promptly abstracts of the papers published throughout the world, in physiological and allied sciences (including Plant Physiology).

A number is published at the beginning of each month.

Vol. XVII begins with the April (1932) issue.

Subscriptions are only taken for April to March of the next year, and are payable in advance.

Back numbers, excepting some which are out of print, may be obtained from the Publishers, or any Bookseller. An extra charge is made for some numbers the stock of which is nearly exhausted. Prices on application.

Binding Cases, price 2s. net, are supplied by the Publishers, who can also arrange for binding; prices on application.

Published by H. K. LEWIS & CO. LTD.

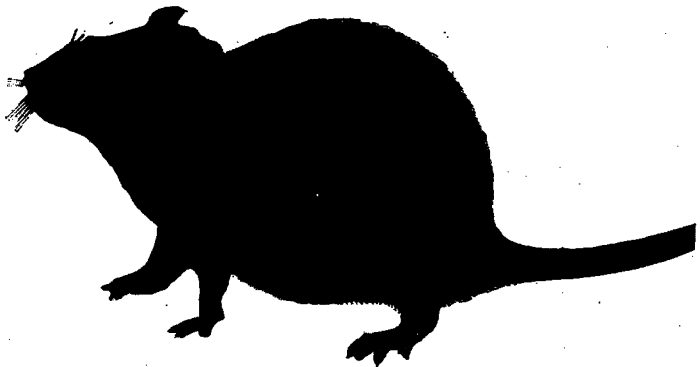
136 GOWER STREET, LONDON, W.C. 1

Publishing Office, 28 GOWER PLACE, LONDON, W.C. 1

Subscriptions may be paid through any Bookseller

INBRED FOR FORTY GENERATIONS

THE LONDON STRAIN



WISTAR ALBINO RAT

In the winter of 1923 the Glaxo Research Laboratory, dissatisfied with the lack of uniform response to experimental conditions shown by the rats then available, imported into England a few of the highly inbred Tyler Strain from the Wistar Institute, Philadelphia—the first to leave the United States.

The fifteenth generation of this "London Strain" of Wistar Rat is now flourishing in the Laboratories, strict brother-sister mating having been continued since 1924 to secure maximum heterozygosity.

During that time over 20,000 rats have been born there; of these about half have been used for experimental purposes and biological assay, and the rest

have been supplied to investigators throughout the world.

The animals have travelled by land, by sea, and by air to university, state and industrial laboratories that have all availed themselves extensively of the opportunity to use pedigree animals for biochemical work. Many laboratories have, in fact, installed a breeding stock of the strain for their own colonies.

Animals have been supplied to countries as far apart as:

SPAIN	INDIA
CYPRUS	NORWAY
FRANCE	IRELAND
NIGERIA	BELGIUM
GERMANY	HOLLAND
CAPE COLONY	ARGENTINE
SWITZERLAND	NEW ZEALAND

A supply of these animals, whether for breeding or for experimental purposes, is available, and particulars can be had on application to:—

The Chief Chemist,
GLAXO RESEARCH LABORATORY,
56 OSNABURGH STREET, LONDON, N.W. 1.